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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,712	12/17/2001	Dmitri Litvinov	SEAG 49243	6468

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EXAMINER

DAVIS, DAVID DONALD

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 05/19/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,712

Applicant(s)

LITVINOV ET AL.

Examiner

David D. Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,15 and 18-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-29 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,15,18-21 and 30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 4-6, 15, 17-21 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagida et al (US 4,385,334) in view of Lazzari (US 5,196,976). Yanagida discloses in column 3, lines 42-51 that the magnetic flux is transmitted to the soft magnetic underlayer by the first and second magnetic flux generating element 18. Yanagida et al discloses an air-bearing surface of the first and second magnetic flux generating elements 18 and 20 being spaced from a boundary layer of the soft magnetic underlayer. Yanagida is considered to have the flux elements spaced from a boundary layer of the soft magnetic underlayer a distance of from about 5 nm to about 10 nm. The flux of the head of Yanagida is considered to transmit to

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the soft magnetic underlayer and have the effect of curving a boundary layer of the soft magnetic underlayer.

Yanagida, however, is silent as to the flux flowing in an opposite direction within or away from an area of the soft magnetic underlayer than the flow of the magnetic flux transmitted to the soft magnetic underlayer by the first and second magnetic flux generating element.

Yanagida is silent as to the first and second magnetic flux generating elements 20 include at least one material selected from the group consisting of Permalloy, FeAlN, Fe/Co and Ni/Fe (45/55).

Lazzari shows in figure 10 and describes in column 3, line 36 through column 4, line 19 that the flux flows in an opposite direction within or away from an area of the soft magnetic underlayer than the flow of the magnetic flux transmitted to the soft magnetic underlayer by the first and second magnetic flux generating element.

Official notice is taken of the fact that magnetic flux elements including at least one material selected from the group consisting of Permalloy, FeAlN, Fe/Co and Ni/Fe (45/55) is notoriously old and well known in the magnetic head art.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the flux of Yanagida flowing in an opposite direction within or away from an area of the soft magnetic underlayer than the flow of the magnetic flux transmitted to the soft magnetic underlayer by the first and second magnetic flux generating element as taught by Lazzari. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to provide flux to flow in an opposite direction within or away from an area of the soft magnetic underlayer than the flow of the magnetic flux transmitted to the soft magnetic underlayer by the first and second magnetic flux generating

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element to “make it possible to read two different resistances corresponding to the resistances of the material for orientation”. See column 4, lines 13-20 of Lazzari.

It also would have been obvious to a person having ordinary skill in the art at the time the invention was made to specify the flux generating elements of Yanagida include at least one material selected from the group consisting of Permalloy, FeAlN, Fe/Co and Ni/Fe (45/55) as suggested in the art. The rationale is as follows: one of ordinary skill in the art at the time the invention was made would have been motivated to specify that flux generating elements included at least one material selected from the group consisting of Permalloy, FeAlN, Fe/Co and Ni/Fe (45/55), which is well within the purview of a skilled artisan and absent an unobvious result, because the materials are readily obtainable for procurement for the manufacturing process and have excellent magnetic characteristics for use in magnetic transducing elements.

Allowable Subject Matter

4. Claims 22-29 are allowed over the prior art of record.

Response to Arguments

5. Applicant's arguments filed September 12, 2003 have been fully considered but they are not persuasive. Applicant asserts on pages 10-12 that Yanagida as modified by “Lazzari teaches away from the present invention”. As stated supra, Yanagida discloses in column 3, lines 42-51 that the magnetic flux is transmitted to the soft magnetic underlayer by the first and second magnetic flux generating element 18, and Lazzari shows in figure 10 and describes in column 3, line 36 through column 4, line 19 that the flux flows in an opposite direction within or away

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from an area of the soft magnetic underlayer than the flow of the magnetic flux transmitted to the soft magnetic underlayer by the first and second magnetic flux generating element.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Davis whose telephone number is (703) 308-1503. The examiner can normally be reached on Monday thru Friday between 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


David D. Davis
Primary Examiner
Art Unit 2652

ddd